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1. In a ball nut having at least one internal bearing race with a first end and a second end, and a crossover passage for connecting the first end and the second end to form a continuous recirculating path for a plurality of ball bearings, the improvement comprising:

at least two eyelets, each eyelet having a helix passage for receiving a plurality of ball bearings formed in a flange end and a crossover passage formed in the flange end, the crossover passage in communication with the helix passage for returning the plurality of ball bearings, wherein assembling the two eyelets in flange-to-flange relationship with respect to one another defines at least one raceway having a single recirculating rotational path for receiving the plurality of ball bearings.

6 at least two eyelets, each eyelet having a helix passage for
7 receiving a plurality of ball bearings formed in a flange end and a
8 crossover passage formed in the flange end, the crossover passage in
9 communication with the helix passage for returning the plurality of ball
10 bearings, wherein assembling the two eyelets in flange-to-flange
11 relationship with respect to one another defines at least one raceway
12 having a single recirculating rotational path for receiving the plurality of
13 ball bearings.

1 2. The ball nut of claim 1 further comprising:
2 the assembled eyelets overmolded to provide a unitary ball
3 nut.

1 3. The ball nut of claim 1 wherein the eyelets are identical
2 to one another.

1 4. The ball nut of claim 1 further comprising:
2 the eyelet drawn and coined to form the helix passage and
3 crossover passage in the flange end of the eyelet.

1 5. The ball nut of claim 1 further comprising:
2 a lock member for temporarily holding the two eyelets with
3 respect to one another.

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1 9. The ball nut of claim 1 wherein the eyelet is formed of a
2 metal material selected from a group including steel, hardened steel,
3 melonited steel, heat treated steel, stainless steel, spherodized stainless
4 steel, annealed stainless steel, and heat treated stainless steel.

why?

an elongate, generally cylindrical-shaped, metal injection molded ball nut body with a helix passage for receiving a plurality of ball bearings.

12. The ball nut of claim 11 further comprising:

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1 13. The ball nut of claim 12 wherein the side insert is
2 formed of plastic.

1 15. The ball nut of claim 11 wherein the ball nut body is
2 injection molded of stainless steel.

1 17. The ball nut of claim 11 further comprising:
2 a ball-engaging surface finish of approximately
3 30-40 μ inches.

1 18. In a ball nut having at least one internal bearing race
2 with a first end and a second end, and a crossover passage for

3 connecting the first end and the second end to form a continuous
4 recirculating path for a plurality of ball bearings, the improvement
5 comprising:

6 a flat metal strip having at least one groove formed therein
7 for receiving a plurality of ball bearings, the strip rolled to a
8 predetermined diameter and lead with the at least one groove facing
9 radially inward; and

10 a carrier for receiving the rolled strip inserted therein, the
11 carrier having a crossover passage formed therein to define at least one
12 raceway having at least one recirculating rotational path for receiving the
13 plurality of ball bearings.

1 19. The ball nut of claim 18 further comprising:
2 the flat metal strip having a coined groove.

1 20. The ball nut of claim 18 further comprising:
2 the flat metal strip having a through rolled groove.

1 21. The ball nut of claim 18 wherein the flat metal strip is
2 formed of 410 martinsitic stainless steel.

1 22. The ball nut of claim 18 further comprising:
2 the carrier overmolded after insertion of the rolled strip.

1 23. The ball nut of claim 18 further comprising:
2 the strip having a roll formed groove therein defining a race
3 for receiving the plurality of ball bearings, the strip formed of a constant
4 thickness metal material.

1 24. The ball nut of claim 23 further comprising:

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2 the strip hardened after roll forming the groove and rolled to
3 the predetermined diameter and lead.

1 25. The ball nut of claim 18 further comprising:
2 the flat metal strip having a stamped groove and a stamped
3 crossover passage therein for receiving a plurality of ball bearings, the
4 crossover passage in communication with the groove for returning the
5 plurality of ball bearings from one end of the groove to an opposite end.

1 26. The ball nut of claim 25 further comprising:
2 the stamped metal strip hardened after rolling to the
3 predetermined diameter and lead.

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